

Remarks

The Office Action dated June 10, 2004 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1-8 and 10-20 are pending in this application. Claims 1, 2, 5, 6, 9-12, 15, 16, 19, and 20 stand rejected. Claims 3, 4, 7, 8, 13, 14, 17, and 18 have been withdrawn. Claim 9 has been canceled.

In accordance with 37 C.F.R. 1.136(a), a one month extension of time is submitted herewith to extend the due date of the response to the Office Action dated June 10, 2004, for the above-identified patent application from September 10, 2004, through and including October 12, 2004. In accordance with 37 C.F.R. 1.17(a), authorization to charge a deposit account in the amount of \$110.00 to cover this extension of time request also is submitted herewith.

The rejection of Claims 1, 2, 5, 6, 9-12, 15, 16, 19, and 20 under 35 U.S.C. § 103(a) as being unpatentable over De Briere et al. (US 4,394,345) in view of Johnson (US 6,332,011) is respectfully traversed.

De Briere et al. describe an ultrasonic transducer assembly that positions the ultrasonic transducers adjacent the top surface of a jet pump beam (see Figures 3 and 4) or adjacent the side surfaces of the jet pump beam (see Figures 7 and 8). De Briere et al. do not describe nor suggest positioning the ultrasonic transducers adjacent the bottom surface of the jet pump beam. Further, De Briere et al. do not describe nor suggest scanning the jet pump beam with the at least one ultrasonic phased array probe so that a scanned volume of the jet pump beam includes an area extending from the bolt opening to the end of the first beam arm and that extends from the top surface of the beam at least partially towards the bottom of the beam. Rather, De Briere et al.

teach away from positioning ultrasonic transducers adjacent the bottom surface of the jet pump beam because the ultrasonic transducer assembly taught by De Briere et al. is incapable of positioning an ultrasonic transducer adjacent the bottom surface of the jet pump beam. Further, there is no teaching by De Briere et al. that a scanned volume of the jet pump beam includes an area extending from the bolt opening to the end of the first beam arm and that extends from the top surface of the beam at least partially towards the bottom of the beam.

Johnson describes a method of scanning a shroud weld that includes positioning a phased array ultrasonic probe on an upper surface of the shroud head flange. Johnson does not describe nor suggest positioning a phased array ultrasonic probe adjacent the bottom surface of a jet pump beam.

Applicants respectfully submit that the Section 103(a) rejection is improper. To establish a prima facie case of obviousness, the Examiner must satisfy three requirements. First, the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combine references. See *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596, 1958 (Fed. Cir. 1988); *In re Skinner*, 2U.S.P.Q.2d 1788, 1790 (Bd. Pat. App. & Int. 1986). Second, the proposed modification of the prior art must have a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. See *Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200, 1209, 18 U.S.P.Q.2d 1016, 1023 (Fed. Cir. 1991); *In re Erlich*, 3 U.S.P.Q.2d 1011, 1016 (Bd. Pat. App. & Int. 1986). Lastly, the prior art reference or combination of references must teach or suggest all the limitations of the claims. See *In re Zurko*, 111 F.3d 887, 888-89, 42 U.S.P.Q.2d 1476, 1478

(Fed. Cir. 1997). And the teachings or suggestions, as well as the expectations of success, must come from the prior art, not applicant's disclosure. See *In re Vaeck*, 947 F.2d 488, 493, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991).

Moreover, the Federal Circuit has determined that:

[I]t is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention."

*In re Fitch*, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992), citing, *In re Gordan*, 221 USPQ at 1127. Further, under Section 103, "it is impermissible . . . to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art." *In re Wesslau*, 147 USPQ 391, 393 (CCPA 1965). See also, *Smithkline Diagnostics, Inc. v. Helena Laboratories, Corp.*, 8 USPQ2d 1468, 1475 (Fed. Cir. 1988) ("claims, entire prior art, and prior art patents must be read 'as a whole'"). Also, if art "teaches away" from a claimed invention, such a teaching supports the nonobviousness of the invention. *U.S. v. Adams*, 148 USPQ 479 (1966); *Gillette Co. v. S.C. Johnson & Son, Inc.*, 16 USPQ2d 1923, 1927 (Fed. Cir. 1990).

In this case, the Office Action has not provided any motivation to modify the teachings of DeBriere et al. and Johnson to include positioning at least one ultrasonic phased array probe adjacent the bottom surface of the jet pump beam, where the at least one ultrasonic phased array probe is positioned under the bottom surface of the jet pump beam and the scanned volume of the jet pump beam includes an area extending from the bolt opening to the end of the first beam arm and that extends from the top surface of the beam at least partially towards the bottom of the

beam. Rather, the Office Action at page 3 suggests that DeBriere et al. is "patently equivalent to the claimed invention" because "their invention performs the identical function specified in the claim in substantially the same way". Applicants disagree with this suggestion because DeBriere et al. teach scanning a jet pump beam by placing the ultrasonic probe on the side of the beam and both independent Claims 1 and 11 of the present application recite the method step of "positioning at least one ultrasonic phased array probe adjacent the bottom surface of the jet pump beam, wherein the at least one ultrasonic phased array probe is positioned under the bottom surface of the jet pump beam". Applicants submit that the teaching of DeBriere et al. is not equivalent to the claimed invention because one skilled in the art would understand that scanning a jet pump beam by positioning the ultrasonic probe on the side of the beam is not substantially the same as positioning the probe adjacent the bottom surface of the jet pump beam, where the probe is positioned under the bottom surface of the jet pump beam. Particularly, the ultrasonic waves travel through the beam from different directions which can produce different detection readings. Applicants further submit that the Office Action has completely ignored the configuration of the apparatus taught by DeBriere et al. because one skilled in the art would understand that the apparatus illustrated in Figures 2, 4, 7, and 8 is incapable of positioning a probe an ultrasonic probe adjacent the bottom surface of the jet pump beam, where the probe is positioned under the bottom surface of the jet pump beam. The Office Action at page 8, makes the mere suggestion that "one having ordinary skill in the art would be able to modify the probe carriage such that the probes fit beneath the beam" without providing any motivation to do so other than Applicants' own application. Particularly, the Office Action states that "If Applicant can fit his probes underneath the beam, then an artisan can also easily do the same probe fitting

by modification of the De Briere et al. carriage". Also, Applicants submit that it is well established that a mere assertion that it would have been obvious to one of ordinary skill in the art to have modified DeBriere et al. to obtain the claimed recitations of the present invention does not support a prima facie obvious rejection. Rather, each allegation of what would have been an obvious matter of design choice must always be supported by citation to some reference work recognized as standard in the pertinent art and the Applicants given the opportunity to challenge the correctness of the assertion or the notoriety or repute of the cited reference. Applicants have not been provided with the citation to any reference supporting the modification made in the rejection, other than Applicant's own application. The rejection, therefore, fails to provide the Applicants with a fair opportunity to respond to the rejection, and fails to provide the Applicants with the opportunity to challenge the correctness of the rejection.

Also, the Office Action has not provided any indication that such a modification has a reasonable expectation of success. Rather, Applicants submit, as explained above, that one skilled in the art upon studying the teachings of DeBriere et al. would determine that the apparatus taught by DeBriere et al. is incapable of positioning ultrasonic probes adjacent the bottom surface of the jet pump beam, where the ultrasonic phased array probes are positioned under the bottom surface of the jet pump beam. Further, DeBriere et al. and Johnson do not teach or suggest all the limitations of the claims. Particularly, DeBriere et al. and Johnson do not teach or suggest positioning at least one ultrasonic phased array probe adjacent the bottom surface of the jet pump beam, where the at least one ultrasonic phased array probe is positioned under the bottom surface of the jet pump beam and the scanned volume of the jet pump beam includes an area extending from the bolt opening to the end of the first beam arm and that

extends from the top surface of the beam at least partially towards the bottom of the beam.

Rather, DeBriere et al. teaches at Col. 6, lines 38-41 that the probes "can be tilted slightly upward from the horizontal, as for example, by 10° in order to focus from below at the upper surface of the beam", and Johnson teaches examining the shroud head flange weld by positioning the probes on the top surface of the shroud head flange. It appears that the Office Action has impermissibly used the claimed invention as an instruction manual or "template" to piece together the teachings of DeBriere et al. and Johnson in an attempt to render the claimed invention obvious.

Also, the Office Action appears to disregard the Federal Circuit's holding that if art "teaches away" from a claimed invention, such a teaching supports the nonobviousness of the invention. Particularly, and as explained above, DeBriere et al. teach positioning the ultrasonic probes on the side of the beam and the apparatus taught by De Briere et al. is incapable of positioning the transducers below the jet pump beam and adjacent the bottom surface of the jet pump beam. Therefore the claimed invention is nonobvious.

Claim 1 of the present application recites a method of inspecting a jet pump beam in a nuclear reactor that includes the step of "positioning at least one ultrasonic phased array probe adjacent the bottom surface of the jet pump beam, wherein the at least one ultrasonic phased array probe is positioned under the bottom surface of the jet pump beam; and scanning the jet pump beam with the at least one ultrasonic phased array probe so that a scanned volume of the jet pump beam comprises an area extending from the bolt opening to the end of the first beam arm and that extends from the top surface of the beam at least partially towards the bottom of the beam".

Claim 11 of the present application recites a method of inspecting a jet pump beam in a nuclear reactor that includes the step of "positioning at least one ultrasonic phased array probe adjacent the bottom surface of the jet pump beam, wherein the at least one ultrasonic phased array probe is positioned under the bottom surface of the jet pump beam; and scanning at least one of the transition portion and the radiused portion of each jet pump beam arm with the at least one ultrasonic phased array probe so that a scanned volume of the jet pump beam comprises an area extending from the bolt opening to an end of the at least one of the transition portion and the radiused portion of each jet pump beam arm, and that extends from the top surface of the beam at least partially towards the bottom of the beam".

De Briere et al. and Johnson , alone or in combination, do not describe nor suggest a method of inspecting a jet pump beam in a nuclear reactor as recited in Claim 1 nor a method of inspecting a jet pump beam in a nuclear reactor as recited in Claim 11. Particularly, and as explained above, De Briere et al. and Johnson , alone or in combination, do not describe nor suggest positioning at least one ultrasonic phased array probe adjacent the bottom surface of the jet pump beam, where the at least one ultrasonic phased array probe is positioned under the bottom surface of the jet pump beam and the scanned volume of the jet pump beam includes an area extending from the bolt opening to the end of the first beam arm and that extends from the top surface of the beam at least partially towards the bottom of the beam.

At least for the reasons set forth above, Applicants submit that independent Claims 1 and 11 are patentable over De Briere et al. and Johnson, alone or in combination.

Claim 9 has been canceled.

Claims 2, 5, 6, and 10 depend from independent Claim 1, and Claims 12, 15-16, and 19-20 depend from independent Claim 11. When the recitations of dependent Claims 2, 5, 6, and 10 and dependent Claims 12, 15-16, and 19-20 are considered in combination with the recitations of Claims 1 and 11 respectively, Applicants respectfully submit that Claims 2, 5, 6, 10, 12, 15-16, and 19-20 likewise are patentable over DeBriere et al. and Johnson, alone or in combination.

For the reasons set forth above, Applicants respectfully request that the Section 103(a) rejection of Claims 1, 2, 5, 6, 9-12, 15, 16, 19, and 20 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Favorable action is respectfully solicited.

Respectfully submitted,

A handwritten signature in cursive script, reading "Michael Tersillo", written in black ink. The signature is positioned above a horizontal line.

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